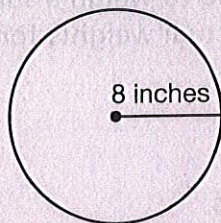


- 17 Mieko is putting a ribbon border around the edge of a circular mirror, as shown below.



[not drawn to scale]

What length of ribbon, in inches, does Mieko use? Use 3.14 for π .

- A 200.96 inches
B 100.48 inches
C 50.24 inches
D 25.12 inches
- 48 Mr. Flores charges \$530 for car repairs to his credit card, which charges no interest if paid in full within 9 months. He pays \$150 the first month. How much must he pay each month for the next 8 months so that he pays no interest?
- A \$47.50
B \$58.89
C \$66.25
D \$380.00
- 49 A cell phone plan charges \$59.90 a month, plus \$0.25 per text message. Which expression can be solved to find how many text messages, x , can be sent while still keeping the monthly bill under \$75?
- A $59.9 + 0.25x > 75$
B $x(59.9 + 0.25) < 75$
C $59.9 + 25x < 75$
D $59.9 + 0.25x < 75$

- 50** A scale measures with a 1.5% margin of error, which means that the measurement given by the scale may be up to 1.5% lower or higher than the actual weight of the object. If Colin uses this scale to weigh a suitcase and the scale reads 40 pounds, what is the range of possible actual weights for the suitcase?

A 34 pounds to 46 pounds
B 35.5 pounds to 44.5 pounds
C 38.5 pounds to 41.5 pounds
D 39.4 pounds to 40.6 pounds

- 51** Which expression is equivalent to $9 - 27m$?

A $-18m$
B $9m(1 - 3)$
C $m(9 - 27)$
D $9(1 - 3m)$

- 52** The rent for an office space is \$674.30 per month. The office is $306\frac{1}{2}$ square feet in area. What is the monthly cost per square foot to rent the office?

A \$22.48
B \$2.20
C \$0.46
D \$0.22

- 3 Lucia is conducting an experiment in which she repeatedly draws a marble from a bag without looking, records its color, and replaces it. She conducted 40 trials in the experiment, with the results shown below.

LUCIA'S RESULTS

Result	Red	Blue	Yellow
Frequency	16	14	10

If Lucia were to conduct the same experiment with 2,000 draws, approximately how many times should she expect to draw a yellow marble?

- A 125
- B 250
- C 400
- D 500

- 54 Simplify the expression below.

$$\frac{4}{9} \div 12$$

- A 27
- B $\frac{16}{3}$
- C $\frac{3}{16}$
- D $\frac{1}{27}$

- 55 Derrick has a chance to win a new music player. He must pick one of the two winning tokens from a bag that holds 15 tokens. What is the probability that Derrick picks a winning token?

- A $\frac{1}{15}$
- B $\frac{2}{15}$
- C $\frac{13}{15}$
- D $\frac{14}{15}$

TIPS FOR TAKING THE TEST

Here are some suggestions to help you do your best:

- Be sure to carefully read all the directions in the test book.
- Read each question carefully and think about the answer before choosing your response.
- Look for words that are **bolded**. They are important.
- Be sure to show your work when asked. You may receive partial credit if you have shown your work.

Beatrice is exploring the relationship between the side length of a square and the area of the square. The table below shows data that she calculated.

DATA ON SQUARES

Side Length (in inches)	Area (in square inches)
1	1
2	4
3	9
4	16

Based on the data Beatrice calculated, are the side length and area of a square proportionally related? On the lines below, answer the question and explain your reasoning.

57

Deborah earns \$10 per hour tutoring other students in math class. She makes a graph of what she earns versus the time that she tutors for. On the lines below, explain what the point $(0, 0)$ on the graph represents.

58

Mr. Jones is teaching a lesson about finding the perimeter of a rectangle. In the lesson, he explains that there are two equivalent equations you can use to calculate the perimeter of a rectangle, given the length, L , and width, W , of the rectangle. The first is $P = L + W + L + W$ and the second is $P = 2(L + W)$. On the lines below, show how the first equation transforms into the second.

- 59 There is a $\frac{2}{5}$ chance that the cafeteria at Horace's school will serve pizza for lunch today and a $\frac{3}{7}$ chance they will serve hot dogs. Horace leaves for school believing it is more likely that the cafeteria will be serving hot dogs rather than pizza. Is Horace correct? On the lines below, answer the question and explain your reasoning.

- 60 Enzo wants to know if he could win the election for class president, so to get an idea, he surveys the 35 students that ride the bus with him. Of these students, 12 said they would absolutely vote for Enzo, 10 said they absolutely would not vote for Enzo, and the remaining students said it would depend on who he was running against. There are a total of 450 students in Enzo's class. If Enzo's bus survey is an accurate representation of his entire class, what number of students in his class are undecided on who they'd vote for?

Show your work.

Answer _____ students

61

Bob won big at bingo last night, he walked away with \$800. The first thing Bob does is to take a cab to his mother's house. He gives the cab driver \$20 and tells him to keep the change. Bob then gives his mother $\frac{1}{3}$ of his remaining winnings and decides to walk down the street to his aunt's house to share his winnings with her as well. Bob gives his aunt one fourth of what money he has left. Lastly, Bob gives one sixth of what he has left to his best friend and keeps the rest for himself. How much money does Bob get to keep?

Show your work.

Answer \$ _____

- 2 Last year, the attendance at the homecoming football game was 300. This year, 360 people attended.

Part A

What was the percent increase from last year to this year?

Show your work.

Answer _____ %

Part B

If the increase in the number of people from this year's to next year's homecoming football is the same as from last year to this year, is the percent increase the same? On the lines below, answer the question and explain your reasoning.

- 63** Ben's contract states that he must work more than 10 hours per project. The graph below represents the number of hours he can work on a project.



Part A

Write an algebraic inequality representing the number of hours, h , Ben can work on a project.

Answer _____

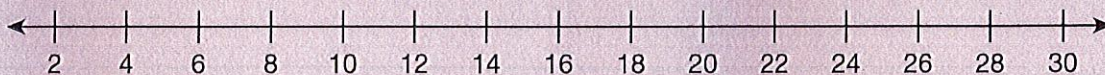
Part B

Ben gets paid \$12.50 per hour in addition to a flat fee of \$50. He wants to earn more than \$300 for his current project. Write an inequality to represent this situation.

Answer _____

Part C

Solve the inequality you wrote in Part B and graph the solution set on the number line below. On the lines below, explain what the solution set represents for Ben.



- 54 Ernest has a circular shaped piece of wire with a radius of 4 inches. Without cutting or breaking the wire, he bends it into the shape of a square.

Part A

What is the circumference of the circle? (Let $\pi = 3.14$) Round your answer to the hundredths place.

Answer _____ inches

Part B

Once the wire is bent into a square, what is the side length of the square? Round your answer to the hundredths place.

Answer _____ inches

Part C

What is the difference between the area of the circle and the square? Round the answer to the hundredths place.

Show your work.

Answer _____ square inches

65

June is conducting an experiment using a quarter, a nickel, and a six-sided number cube. Her experiment consists of tossing both coins and rolling the number cube.

Part A

Create a tree diagram, or list, of all of the possible outcomes for her experiment.

Part B

What is the probability that the coins don't come up the same (i.e., heads and tails or tails and heads) and the cube shows a prime number? Record your answer as a percent rounded to the nearest tenth.

Show your work.

Answer _____ %

STOP

Reference Sheet

Grade 7 Mathematics Reference Sheet

CONVERSIONS

1 inch = 2.54 centimeters
1 meter = 39.37 inches
1 mile = 5,280 feet
1 mile = 1,760 yards
1 mile = 1.609 kilometers

1 kilometer = 0.62 mile
1 pound = 16 ounces
1 pound = 0.454 kilogram
1 kilogram = 2.2 pounds
1 ton = 2,000 pounds

1 cup = 8 fluid ounces
1 pint = 2 cups
1 quart = 2 pints
1 gallon = 4 quarts
1 gallon = 3.785 liters
1 liter = 0.264 gallon
1 liter = 1,000 cubic centimeters

FORMULAS

Triangle

$$A = \frac{1}{2}bh$$

Parallelogram

$$A = bh$$

Circle

$$A = \pi r^2$$

Circle

$$C = \pi d \text{ or } C = 2\pi r$$

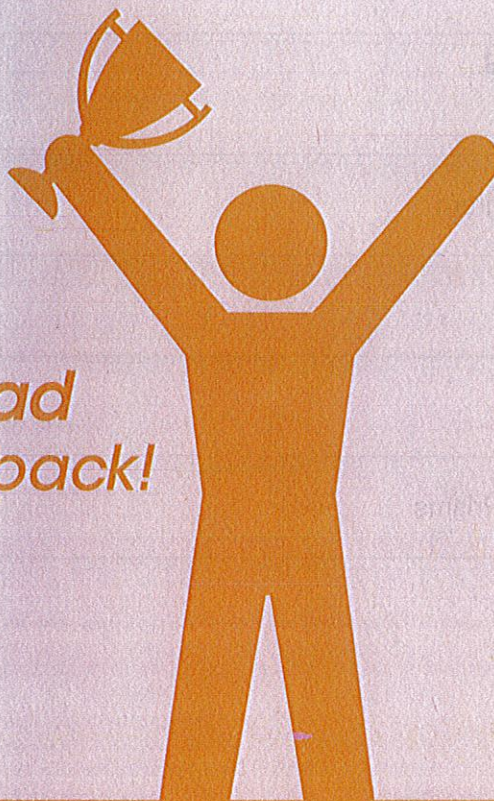
General Prisms

$$V = Bh$$



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